

Journal of The American Institute of  
**ARCHITECTS**



January, 1951

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**NEW TOWNS for AMERICAN DEFENSE**

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**William L. C. Wheaton**

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**G. Holmes Perkins**

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**David S. Geer**

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**Albert Mayer**

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**William G. Holford**

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**Roger L. Creighton • Robert L. Wegner**

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IN Norse mythology, a poor man got a magic mill from the elves. With it he could grind whatever he wanted—food, clothing, furniture, and best of all, gold. Of course, the poor peasant's lot changed from poverty to riches.

An envious brother borrowed the mill. He commanded it to "grind herrings and broth and grind them good and fast." But having taken the mill in such haste, he didn't know the magic words to shut it off. He was almost drowned in broth when the brother came to the rescue.

Finally, the magic mill was stolen by a salt dealer, who put it on his ship. Safely at sea, the skipper demanded, "Grind salt and grind it good and fast." Alas, he hadn't learned the control words either. The mill ground salt endlessly, filling all his kegs

and his hold, covering the decks and at last sinking the ship. There at the bottom of the sea, so people say, the magic mill still grinds—and that's why the sea is salty.

From time immemorial, men have dreamed about magic mills and schemes to bring abundance and riches. Here in America, today, there are plans that are flooding us with superabundance of certain commodities. But what about the magic words to shut off the mill?

Isn't it time we see the truth in this ancient Norse myth, that "too much" is just as foolish as "too little"? We may well remember this first law of economics: In a free market, supply can adjust itself to demand—whether it be potatoes or steel—without sinking the ship. Here is a must job for all thinking Americans.



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## Short-Run, Long-Run

THE FACTS OF CIVILIAN DEFENSE, as they have been exposed by recent authoritative statements of the National Security Resources Board, leave no doubt that the hearts of our congested, inflammable, and often flimsily-built cities are a most inviting target to any enemy. It would not take hydrogen bombs, or atom bombs, to put most of our cities out of action as effective centers of production and distribution. Old-fashioned incendiaries and blockbusters would be enough. To protect our vulnerable cities will require measures that will dwarf anything we have previously attempted. Merely to put cities in an attitude of defense will take clearance operations beyond those of any housing program; cutting fire lanes will mean urban surgery surpassing any expressways; and powers of urban redevelopment will be needed greater than any now existing.

If we are to take seriously the national defense emergency, defensive measures of this sort must

be entertained. That is not to say vast Federal expenditures for clearance operations must be made. Rather, it is to contend that existing Federal programs for slum clearance and urban redevelopment, the Federal-aid highway system, and other routine programs affecting our city patterns must now be guided by defense considerations. In this way we can get the most for our public expenditures.

A task which fits the capabilities of our architects is to integrate the short-run programs made necessary by the defense emergency with the long-run programs which past errors in planning and rapid urban growth make necessary in any event. As we seek ways to employ our training and ability to serve our country in the difficult period through which we are living, the task of planning our cities to make them easier to defend as well as fit places in which to live deserves a high priority in any scheme of architectural values.

NATIONAL DEFENSE  
COMMITTEE, A.I.A.

# NEW TOWNS FOR AMERICAN DEFENSE

## Introduction

*By William L. C. Wheaton*

ASSOCIATE PROFESSOR OF REGIONAL PLANNING, DEPARTMENT OF REGIONAL PLANNING,  
HARVARD UNIVERSITY GRADUATE SCHOOL OF DESIGN

THE UNITED STATES was a thriving center of new town building during the first quarter of this century. Longview, Kingsport, Chicopee and many other communities constitute an impressive tradition which has been almost forgotten in the last two decades of metropolitan expansion. American planners are increasingly forced to consider the possibilities of decentralization and new towns as the only real solution to the growing problems of the metropolis. Dangers of war and the threat of aerial attack only emphasize needs which are apparent in our peacetime communities.

This symposium summarizes a series of new-town plans which were prepared during the last five years in the Department of Regional Planning, Graduate School of Design, at Harvard. These new-town plans, together with authoritative discussion of the issues in town design and planning

which have been raised by them, may shed some light on the possibilities of solving our current problems of congestion and blight in a way that is as old and as indigenous as New England. Accompanying them are several statements of experience and viewpoint on new-town planning which were presented at a symposium held at Harvard in December of 1950.

Recognizing the importance today of the new-towns movement, The American Institute of Architects has taken the unusual step of devoting this issue of the JOURNAL almost entirely to this subject. In this way we hope to extend the influence of the symposium, and make available to a wider professional audience the facts and issues composing this solution to many of the problems of urban decentralization.

Because of our advanced state of industrialization and our relatively higher standard of living,

JANUARY, 1951



America's future new towns may be markedly different from those of the past or those of other countries. America's towns must assume an almost universal use of the automobile, which gives us enormous mobility and creates equally great problems. The automobile makes decentralization possible, even probable, for American cities, possibly on a scale and to an extent that could not occur elsewhere. Decentralization—vast, sprawling, anarchic; or decentralization, planned, organized and guided? This becomes our major town planning problem.

The supermarket and the regional shopping center may spell the eventual decline of neighborhood shopping. New concepts of social and economic mobility, democracy and the like challenge the neighborhood concept, which has

all too often found realization only in suburban exclusion. The decentralization of industry offers hope for new-town planning. Notions which have become traditional regarding the separation of residential and industrial areas are challenged. Must the journey to work become an even greater source of lost time and traffic congestion, or can we find more positive possibilities in our new-town patterns? These questions were explored in varying degrees in the town-planning problems described herein. The issues raised are presented in the hope that they will advance our thinking about the pressing problems of decentralization now confronting most American cities. We have labelled this symposium, "New Towns for American Defense," because defense gives a new urgency to an already urgent peacetime need.

## A New-Town Program

*By Albert Mayer \**

\* Partner in the firm of Mayer & Whittlesey, New York City, Architects and Planners; currently Planning Consultant to the Indian Government and Planner for a new capital of Punjab, India. Mr. Mayer is well known in city-planning circles and is author of

numerous articles on architecture and planning. His most recent large housing project is the New York Life Insurance Company's "Manhattan House." He has just been appointed chairman of The Institute's Committee on Urban Planning and Housing.

JOURNAL OF THE A. I. A.

NO ONE NEEDS TO BE CONVINCED that we are faced with a very grave potential emergency. We have been thoroughly indoctrinated with the gruesome possibilities of the atom bomb, the H-bomb, biological warfare, as well as the now almost old-fashioned guided missiles and air attacks in force. But this present emergency also differs from the others in my lifetime in three other respects: The long preparation for an undated catastrophe and the psychological suspense, are in themselves a very serious hazard; the period of the "emergency" may last for many years; the range of tools we have potentially available is far more complete and potent than in past emergencies.



By the creative and imaginative use of these tools, we may very well minimize the most pervasive, elaborate and frustrating elements in the civilian defense programs now being worried about and prepared. To achieve such a satisfactory and creative result we must rouse our people to the opportunity for right decisions, which seem to me quite clearly to be attainable, *beginning now*. In fact, only if we begin now earnestly, realistically, with

vision—as Americans can, have, and should.

The predominant preoccupation of those who would protect us—from the top man in the lay agencies in Washington to the governors and mayors around the country—is what is called civil defense or more expressively, disaster relief. We will see why this is terribly costly and completely unsatisfactory when standing by itself.

A partial deviation from this civil-defense-by-itself pattern is the General Services Administration's proposal to build Federal office buildings for some 40,000 to 80,000 workers, some miles away from Washington, and in eight locations. The workers are to commute to them from Washington. This timid halfway proposal does not bear up under analysis.

It is well known that the only real protection against the new forms of attack is *space* and self-containment in smaller concentrations. This is known not only to us. It began to be recognized by the NSRB in its "National Security Factors in Industrial Location" pamphlet in 1948, but has never been followed through.

Let me now examine these three propositions.

## DISASTER RELIEF

We all have heard vivid accounts by scientists and by eyewitnesses of the inferno that an atomic explosion causes. Most of us do not know what a costly, unsatisfactory, endless, psychologically difficult matter this civil defense is. It seems that every family in a Critical Target Area—which an NSRB pamphlet defines as covering 67% of our population—should have a Refuge Room, a Geiger Counter, and Equipment including a hand-operated water pump, buckets, hose, rake, hatchet, candles, extra windowpanes—some 40 items in all.

We find that a large number of permanent personnel is required: for training, administration, coordination, research, public education and public relations. No one has, so far as I know, estimated totals of anything, but it will surely involve a very sizeable chunk of first-class manpower.

It involves tremendous amounts of material: extra and duplicate communications, duplicate water and electric supply installations, bombproof shelters, emergency shelter for evacuation of population after the disaster, decontaminating materials, radiological equipment. One of the worst features

of this is that no one knows whether equipment and materials that are effective when purchased or installed, will be effective a year later—and remember, this is a long pull. Finally, the specific plans for cities show tremendously complicated charts of organization, call for all kinds of civilian training in communications operation, alarm wardens, fire fighting, first aid, simulated disaster drills and dry runs.

No one questions the need for this civil defense and disaster relief. It will probably have to be fully as elaborate as indicated. But there are these crucial defects in such a program for disaster relief *standing by itself*. There is a continuing absorption of manpower. Not only will the first cost of materials and construction reach into the billions—even ignoring such a symptom as the New York City suggestion of \$450,000,000 for physical protection—but, due to the probable obsolescence of such measures as just indicated, the recurrent cost and absorption of materials will be very high also. Finally, and above all, the psychological factors are critical. If the authorities succeed in arousing the people to an acute sense of the desperate potential dangers, which they must

do if they are to find the millions of devoted volunteers required, the strain of such a program on us all—who will constantly need to be in a state of alarm over a period of who knows how many years in the face of uncertain disaster—will be a continually disturbing psychological factor.

#### PARTIAL DECENTRALIZATION

We must have civil defense, but it will be a viable, useful mechanism only if we can look forward to happier solutions. We must achieve the safety of space, which means new towns. The continuing sprawl of our cities won't do it. That will make only easier and more attractive targets that can't be missed. Moving out industries without housing and schools won't do it, and moving office buildings out of Washington won't do it. Let us see why.

The GSA theory at Washington is that you move the work centers out to lessen and scatter the target and the danger of complete interruption of government, and that workers living in Washington will commute out to them—they are to be within an hour's travel distance. In the first place, you do less than a 50% job because these workers will spend 14 hours of their 24-

hour day in Washington; and because bombing is still best done at night. In the second place, the workers in each of your decentralized office buildings don't all live in one convenient package in one area of Washington. They live all over the city, and the traffic through Washington will be immensely intensified and confused—and evacuation when necessary will be more complicated. And if, as in the last war, there is a gasoline shortage and a rubber tire shortage, we will be working against our war effort. It will also involve a great highway building program. These are only specimen difficulties. It won't work out entirely this way of course, because as in the last war with newly located industry, the demands of human needs will be met by shacks, trailers, hot-dog shanties, home-made plumbing and utilities, absenteeism, finally some temporary housing and costly makeshift utilities, schools, Lanham-Act community facilities—hurriedly planned, most of it too late for full beneficial use.

#### NEW TOWNS

No. Civil defense alone is no answer. Halfway decentralization is no answer. We must quickly face

the fact that we must do the whole job—build decentralized communities. We can do it. We can start doing it now. The Milwaukee Civil Defense and Disaster Committee pays wistful tribute to the concept by adding to its report a table entitled "Long Range Dispersal Planning in Milwaukee." Of course it's long-range, but I propose to show that a great many such decentralized communities can be started now, can be done without excessive cost or use of more materials IF WE WILL TO DO IT.

In that context our needed civil defense will take on a whole new psychological color for the people. Instead of looking forward to dreary years of fruitless training and drilling and extra hours topped off by the weary and time-wasting evacuations and decontaminations and suspense, they will see a purpose in it, a goal of happier living. The spiritual, social and physical advantages of new towns are herewith described adequately. I need only remark that they also constitute the one real safety against bombing and biological warfare, for towns of 50,000 or 75,000 with greenbelts and five miles between do not offer profitable targets; that they are more continu-

ously efficient because production will not be interrupted by bombings and evacuations; that each one built will offer a psychological and physical haven to those who work and live there; that their consummation will be an earnest to others still in the big cities; and finally that every such town created will progressively diminish the heavy load of civil defense.

Why do I say we can do it at a considerable rate, without excessive cost or use of materials? Well, we have, to start with, certain industries seeking decentralized locations anyway. This has long been a strong tendency. That is our nucleus. We have home building, even on a reduced basis, at a rate of some 800,000 a year. Let us suppose only a quarter to a half of them were channeled into new-town locations. Three to four hundred thousand houses would make some 15 towns of 70,000 population each—a sizeable start and annual rate. We have a sufficient highway network to locate them, without very serious extensions. New utilities? No more will be required than are now being built for the Levittowns, and cumulatively for the innumerable agglomerations of new FHA and other houses. Schools we are short



of anyway, and can just as well build them there. Labor supply? If we channel most of our low-rental public housing to such open land, as we did in the last war, and as now appears to be called for anyway because severe housing shortage makes slum clearance at this juncture an almost impossible job, we shall have met the most serious part of this problem. And if the towns are placed, as they mostly will be, within commuting distance of the large city and of one another, we shall have that labor pool which industry seeks, and that choice of jobs which labor seeks.

What tools have we this time? We have the National Housing Act of 1949, if the Administration decides to pry some of it loose. This gives us the opportunity to supply the needed low-rental housing. We have the Title I Urban Redevelopment Act which includes vacant land and permits condemnation—i.e., prompt acquisition. We have private builders who depend on FHA, who have in recent years become accustomed to very-large-scale operations on raw land. The trouble is that all these elements which could and should be acting together, are acting, or failing to act, separately, without any

creative relation to each other; and NSRB acts as though it had never heard of any of them.

What we must immediately seek is a few pilot projects to start with, in the most favorable areas. Possibly Washington would be the first or one of the first; or Milwaukee, which seems to be groping toward this. There will be problems and obstacles to explore, and a basis must be laid down for meeting them—e.g., coordinating local agencies and jurisdictions, carrying along local public opinion, seeing what amendments in Federal legislation and what consonant state legislation are needed to make our tools effective.

But the big job is to arouse the public, its leaders and its representatives to the stirring possibilities, to place these possibilities in the arena of realistic intent and action. Wouldn't it be marvelous, for once, to do the right thing in time, to grasp the emergency mood and turn it into positive action instead of accentuating its distortions; for once, in peacetime to act in terms of strategy instead of the eternal piecemeal tactics? Short-range and long-range views both point unerringly to the answer. That answer is **NEW TOWNS**. The time to start them is **NOW**.



## New Towns for America's Peacetime Needs

*By G. Holmes Perkins \**

**T**WO HUNDRED New Towns in the next ten years could do more for American families than any other proposal yet made. Nor would they add any new burdens to our defense economy. By building these towns, each with a population of about 50,000, we would double the number of communities of this size or over in the United States. Yet less than one-quarter of the new houses (at the present rate of construction) would be needed for these new towns. We are today bearing a heavy cost for surgical redevelopment because there is no way to avoid paying for past mistakes—and for these the community must take a large measure of the blame. But by foresight and determined action through a New-Towns Program

we can save our children from having to pay for our negligence.

In terms of cost it is difficult to see how the building of new towns, rather than extending the present sprawl, can add a dollar to the cost of homes, to the cost of schools, of roads, of water and sewer lines, to fire and police protection, or to the cost of doing business whether it be retail trade or manufacturing. Rather, I am inclined to think there might prove to be important savings even at higher physical standards. Yet the decisive reasons for new towns lie in the incomparably better social environment created.

But first the matter of costs. Homes in a new town would be built over a relatively short period of time. There is conclusive evidence from Levitt, Burns, and Bohannon that such methods can produce better and cheaper houses (as well as greater profits to the builder). Compared to the cliff dwellings of Manhattan (or even to those more generously spaced in other cities) the margin in monthly costs is decisively in favor of single-family houses on new land.

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\* Chairman of the Department of Regional Planning, Graduate School of Design, Harvard University, and Norton Professor of Regional Planning. Mr. Perkins is Dean-designate of the School of Fine Arts of the University of Pennsylvania. He was formerly associated with the National Housing Agency and has served as consultant to a number of state and local planning organizations and to the British Ministry of Town and Country Planning.

But it will be asked whether it would not be cheaper to build on land already served by sewers and water. No such alternative exists. Fifteen years ago, following that fantastic orgy of subdividing in the 1920's, large tracts could have been found in tax-delinquent areas for new communities, neighborhoods or housing projects. Chicago and Detroit each had a half-million empty lots in 1935. Today, hardly any land remains with sewers and water available. A second argument, that it would be cheaper to extend existing lines, assumes that major mains, whether water or sewer, are capable of taking the enormously increased loads which would result. Rarely would this be the case. But what is more important is that the major cost of utilities lies in the local distributing and collection systems which would have to be built in either case. Certainly the design of a system for a new town where the demand may be accurately calculated would produce far greater economies than the piecemeal extension of roads and utilities.

As for schools, most of our cities are already financially hard pressed to provide for their war and post-war babies. State aid is being lavishly offered. Federal aid is ad-

vocated and tomorrow will be given. This is only a pragmatic recognition of realities, since local revenues cannot stand the strain. No more schools are required in a new town than for a similar number of pupils living elsewhere. Land, on the other hand, would be cheaper and more plentiful—removing two major headaches of every school board in its search for a solution of this pressing problem. Savings, not added costs, would result here if state (and Federal) aid were available on equal terms to old cities and new towns.

In a planned community the shopping centers, while offering immeasurably greater convenience to the shopper, could be built more cheaply because of a lower land cost. On no other point have we more convincing evidence from private developers of the advantages of planning. From the Country Club District of Kansas City to Hancock Village of California the testimony is unanimous.

In addition, there are the clear advantages to the manufacturer in locating on inexpensive land where room for expansion can be reserved at little or no cost. Too little advantage has been taken of the possibilities of planned industrial districts in aiding manufacturers in

their constant effort to reduce costs in a highly competitive economy.

The prospect that new towns may cost no more is not evidence that they offer a better life. But since they will cost no more, our decisions need not be prejudiced by any uncomfortable qualms that we are talking of an unattainable utopia. New towns are technically and economically feasible today.

In the past century and a half man's ancient roots in the soil have been uprooted. More families than ever are seeking something which they sense the larger city alone can offer; yet at the same time more homes are in demand in the suburbs. With these two movements I would couple one other. Since the 1880's there has been a persistent and peculiarly successful drive to preserve the wilderness, to create national parks, to reserve for public use many of the natural wonders of our nation and, on a more modest metropolitan basis, to create forest preserves and continuous park systems along streams and unspoiled hills. These movements taken together would suggest that men are seeking a renewal of that balanced life which was snatched away by the industrialization of our society. Perhaps because we have placed so high a

value on the machine, we have been prone to forget the family in favor of the economic man. If in our system of values we are to elevate man rather than machines to a position of dominance, our whole concept of the town is bound to undergo a revolutionary change. A balanced life becomes the goal, combining manual and intellectual, rural and urban pursuits, and access to wilderness and communion with nature as well as contact with the world of art and music in the metropolis.

All signs point to the necessity of dealing with these problems on a regional basis. The concept of the region implies a balance between cultivated farmland, the city, and unravaged nature. Each offers its unique contribution to man; each complements the other; and through such variety man's whole existence is enriched.

The region thus conceived can become the healthy basis for our future plans. Within it there will be towns of many sizes performing diverse functions. If the region includes a metropolis, problems of growth are aggravated. Continued expansion of population and still faster geographical extension of metropolitan centers are threatening the very health of our economy.

Pyramiding costs of public services, fantastic expenditures for roads and subways, social maladjustments, years spent in commuting: these are the inflated prices we are paying for an illusion of the good life. But because we have been dazzled by our own mechanical ingenuity, we find ourselves on a dead-end street.

The billions promised for urban redevelopment will hardly touch the problem; there is even acute danger that they will merely prolong the agony if spent on surgery alone. Densities must be lowered despite costs. Yet the problem has a simple answer. Each year we build thousands of new homes around every metropolis, spend millions on schools, build whole new shopping centers and new factories. As a result, each year we travel farther to work, each year our roads become more congested and more expensive, the country is made more inaccessible, and farms are overrun by urban sprawl. Schools, playgrounds and parks are inadequate because of the failure to foresee these inevitable needs.

If we would reduce the mounting social and financial burdens of such uncoordinated building, we must create communities and towns

which possess a certain self-sufficiency within the larger region. The journey to work must no longer impose the burden it now does, yet at the same time a wide choice of jobs must remain. Children should be able to walk to school safely; mothers should have convenient markets and safe playgrounds for their youngsters; and it should be easy to meet and make friends. Only by building towns rather than projects or subdivisions can we do this. Only by cooperation between government and private initiative can the results prove effective, for without government participation schools will not be built in time, nor will parks and playgrounds be provided, nor in all probability can the initial land be obtained in large enough parcels, nor can arterial highways be related to the new towns. Such aid can be given effectively only by the state or Federal Government. A New-Town Program on a national scale is needed for the salvation of our existing great cities as well as for the nation and its people.

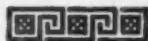
Yet it will be said that these smaller cities will breed a narrow parochialism because of their relative isolation; that the glamor, the

excitement, and the culture of the city will be diluted if not wholly lost. I would suggest that quite the contrary will be the case. The location of a new town in the country yet convenient to the metropolitan center will tend to open the minds and hearts of its citizens to new and broader interests; perhaps a lessened interest in shows and spectacles will be replaced by a greater participation in community life. As participation broadens, I see not a decline in the arts and culture of the region but a renaissance with the central city still the focus. In the center will still be located the cultural magnets of the region—the symphony, the great library, the science and art museums, and the theater. Nor do I see the glamor of the center reduced because it is more comfortably reached and freer of jostling crowds. Although some writers profess a nostalgic feeling for such confusion, I am prepared to forego such dubious and sentimental joys. The new towns will not long remain new. And a generation later we will hear all too clearly the same nostalgic sighs from older men when our sons

begin to redevelop their new town. Nor would I ask them to pause for even a moment in their efforts to improve our old-fashioned designs.

New towns as the keystones of a region are the best hope we have for creating a better environment. They are economically and technically possible today. If built in a spirit which encourages exploration and experiment, we may achieve that variety and freedom of choice so dear to Americans. But constant care must be taken to avoid the straightjacket of dogma or any arbitrary narrowing of choice. From the stream of ideas will come a constant evolution leading to designs of towns which will serve men better. Each town will, in its special way, contribute to this betterment and will in turn serve as a laboratory in which designers may learn how to improve the next model.

No other program can prove so fruitful in the rehabilitation of our cities. None promises so much hope for the family and community as a national program for New Towns.





## Oak Ridge: A World War II New Town

*By David S. Geer\**

**W**E HAVE CONSIDERABLE EXPERIENCE in the United States in building new towns. More than a score of them were built in the first quarter of this century. Several were built during the last war and since the war others have been added. Their purposes have been varied: some are tied to particular industries, others to major construction operations or war plants, and a few have started as speculative enterprises. Hershey, Kohler, Chicopee, Kingsport, Greenbelt, Park Forest, Norris, Vanport, Oak Ridge, these are familiar names to Americans.

During the last year we repeatedly found it necessary to build

projects of town size. Some of these are new towns in a real sense. I would like to limit the term "new towns" to those which have contributed in some considerable measure to our knowledge of better urban living. Most new towns, because they are consciously designed, have produced better urban results than we have obtained by adding a thousand little subdivisions to an existing city. We should include as a part of our definition of the term "new town" a statement of design concept procedures and standards.

I was close to the development of Willow Run during the war, and the post-war preparation of a master plan for the permanent city of Oak Ridge. I have been asked to describe the general plans and conditions underlying the design of Oak Ridge, Tennessee, dealing chiefly with the design problems and their relations to social and physical conditions which produced the design solutions. This description will follow the outline of essential steps that are required in the building of any new town.

The first essential in building a new town is a clear statement of

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what might be called the basic program. The word "basic" is here used to distinguish this statement from the detailed program which will be discussed later. Some persons might call this basic program the motivation for the town or the proposed economic base. Others might call it the analysis of the market to determine the need for a new town and the essential functions the town will serve in the national economy. This basic program statement includes specifications needed to select the site, such as the power requirements, transportation requirements and labor-force requirements. The major objective for Oak Ridge was to have enough workers, including scientists in the plants and laboratories, to learn how to make, in the shortest possible time, some major components of the atomic bomb. The basic program stated the danger factor, the secrecy factor, the need for cheap electricity. The decision was made to build a new permanent town for about three thousand families somewhere fairly well away from civilization, where there was adequate electric power and the topography would permit the segregation of the town from the plant. The industry and laboratory areas would have to be

fairly well separated from the living areas.

In accordance with these basic program specifications, the site was selected. As a part of the site selection, it was necessary to have a thorough knowledge of all the possible advantages and disadvantages of the surrounding region. For instance, a study of the labor supply showed that an unexpectedly large number of the workers required could be recruited from the surrounding area. One-third of the workers required to operate the Oak Ridge plants do not live in the city of Oak Ridge. Knowledge of this sort has its obvious effect on the planning decisions.

A mistake was made in the original basic program for Oak Ridge which had considerable influence on all subsequent planning. The original estimate of the magnitude of the problem indicated that 3,000 families would be sufficient to accomplish the objective. As the total operation developed, it was realized that the population required was many times greater than had been at first supposed. The first unit of the war-developed Oak Ridge was built on a permanent basis for the 3,000 families. The remainder of the war development changed from perma-

nent to very temporary in order to obtain the speed needed.

The second important step in building a new town is the technique of programming the quantity and quality of all the facilities required to satisfy the major and minor objectives of the town. In spite of the rush, enough time was taken at Oak Ridge in research and analysis that the programming of the proper complement of schools, parks, shopping centers and other essential features was quite well done. It cannot be over-emphasized that it is the responsibility of the planners of a new town to see to it that this programming work is done adequately, not only as it concerns land-use area but also the quantities of other items. These other items run the whole gamut from community centers to cubic-foot-per-second of sewage. This work I call programming is sometimes called by other names, such as market analysis or area standards. To date we have only made a beginning in the techniques required to do this programming work properly.

The third important technique in building a new town is the design. The designer, to be most effective in seeing his ideas carried out, must understand very clearly

his relationship to the complex organization required to build a new town. There are considerable advantages in having him in charge of the entire technical organization. It would certainly be ineffective in new town planning to have the planner purely in an advisory capacity.

The design of Oak Ridge was done by the firm of Skidmore, Owings & Merrill, architect-engineers, with Mr. John Merrill in charge of this project. This firm was also in charge of a large portion of the architectural, engineering and other technical work required. It is amazing that no basic errors were made when one considers that because of the rush requirement there was no time to make alternate studies or contemplate all the desirable correlations of parts. There was a major overall design concept and it was kept through the day-to-day quick decisions that had to be made.

The town lies in a valley roughly three miles between ridges and eight miles long. The relatively flat land (having less than 15% slopes) on the valley floor had to be devoted during the war to construction operations and other non-residential uses. The town

was built on the rough topography of the south slope of Black Oak Ridge. The general scheme was an arrangement of groups of approximately 1,000 families around an elementary school and neighborhood shopping center. Because of the topography the arrangement is linear. A major thoroughfare was placed in the fairly level valley and another along the relatively unbroken top of the ridge. These major thoroughfares were connected with each other by major streets wherever topography permitted reasonable grades. Residential streets, many of them cul-de-sacs, were then worked out on the minor ridges and promontories wherever the land was not too steep for development. Much of this layout was done directly in the field.

When the war was over, it was recognized that Oak Ridge would become a permanent city of 50,000 persons, and a master plan was prepared to guide the extensive new development and salvage what was worth saving of the town built during the war. The general arrangement of this master plan for the permanent city preserves most of the streets and utilities that were built during the war on the south slope of Black Oak Ridge. A new

light-industry area was laid out to permit the removal of the miscellaneous clutter of land uses that occupied the valley floor during the war. On the valley floor land thus cleared, five new neighborhoods were laid out, and a new main shopping center, administrative center and cultural center. New major thoroughfares had to be added not only to articulate the new developments within the city, but also to provide for better communications between the city and the surrounding region.

The fourth important technique in developing a new town has to do with the procedures that will direct detailed design and construction according to the plan. Most of the development will be done within a five-to-ten-year period and generally under the direct control of one owner. For adequate planning, maps and plans are required at a larger scale than are usually included in master planning documents. For instance, neighborhood designs should be prepared at 100' = 1". These plans are to give general directions and are not to go into the detail required for the final landscape, architectural and engineering layouts, which will be done immediately before construction proceeds.

In addition to the documents needed to direct the original development, a framework must be set up for controlling decisions which will be made over a much longer period of time. There is an opportunity for types of control which do not exist in typical city planning. They arise from the fact that all of the land is initially in one ownership. I think that a great deal of very constructive study could be given to the integration of zoning and deed restrictions or leasehold restriction techniques. For instance, Oak Ridge could be subdivided and sold to private owners with deed or leasehold restrictions so written that many of the advantages of recent English planning laws would be gained.

The fifth most important technique I call "Development Momentum" (for want of a better term). In building a new town it

is extremely important to establish and stick to a development tempo. The executives who made the initial decision that there was sufficient motivation to build the new town will probably decide what this tempo should be. Once the decision has been made, the design group must come up with the answers on schedule. A slow tempo is desirable because it gives an opportunity to work out the nicety of detail necessary for an excellent finished product. A fast tempo requires that the designer be sufficiently experienced that he can distinguish major essentials from minor niceties, and he must not make mistakes in major essentials. Once the tempo is established, it is important to come up with decisions on time. A development which gets into a speed-up-and-wait tempo is likely to result in no new town at all.

#### THE HARVARD STUDIES

### The Design of New Towns

*By G. Holmes Perkins and Roger L. Creighton\**

**I**N BUILDING NEW CITIES we have, beside the task of finding the proper quantities of houses,

stores, schools, roads, and other facilities necessary for a functioning community, the exceedingly difficult job of molding these parts into a conscious design. *Design* may not be taken here in a limited

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sense; it is neither mass architecture like the boulevards of Paris, nor a perfect flow diagram for transporting people and goods. The design for a city must foresee and meet the social requirements of its people, must be organized for the efficient functioning of the economic life of the city, and must have a physical order to delight and impress the spirit.

As city planners we must understand cities, their problems and forces, their structure, their growth and decay, for they are our materials. If, through ignorance of these problems, we are only able to produce designs which clean up existing city patterns, then we have failed, for ills inherent in the old patterns will make sick the new as they did the old.

With a background of understanding we can proceed to study different patterns of new towns. A pattern is a two-dimensional arrangement of the functions (parts) of the new city. That is to say that it is a map showing residential areas, industrial areas, schools, commercial centers, and roads, together with some other less important items.

That which gives pattern real meaning is the multi-dimensional thinking going on in the mind of

the designer. The city planner thinks of pattern in the dimensions of traffic, residential density, topography and sewer lines, in the dimensions of economic location, government, and social grouping, and in terms of time and the architectural articulation of space.

The basic design problem is that of relating the functions of a new town in their proper dimensions so that those aims will be achieved which we consider important. Any list of aims is almost endless. Examples like safety for school children, livable neighborhoods, efficient circulation, municipal economies in roads and schools, profitable commercial areas, adequate parks, and exciting building groups, are but a few of a legion of aims. These aims might be classified as high standards, economies, and esthetics, but their chief goal is the best possible living environment for the people.

The four examples of new towns discussed here show a series of different aims and different emphases, with their resulting differing patterns. All of these new towns are located about fifteen miles from the center of Boston, in the line of present growth, but well clear of the present urban sprawl. They all are related to Boston and are



dependent in varying degree on the center for the many services which only a large metropolis can support. Preliminary research showed these sites as among the best around metropolitan Boston from the point of view of topography, of rail and road transportation to Boston and to the west, and from the point of view of industrial location.

#### CCA—1946<sup>1</sup>

The CCA plan (Concord-Carlisle-Acton; named for the site) is dominated by the idea of the neighborhood, which is conceived here as a community of around 5000 persons, integrating home, church, school, shopping, and work in one area. In any metropolis there is a definite hierarchy of educational, commercial and cultural functions. We have the elementary school, the junior high school, the high school, and the college. We have minor shopping districts, major shopping centers, and the central shopping district. Social, cultural and governmental functions have their hierarchies as well. The CCA plan has assumed that most of these functions will group themselves into an order made up

of neighborhoods, of towns made up of neighborhoods, and of a metropolis made up of towns, each with its specialized center. In the CCA plan, the neighborhood is given more facilities and greater self-sufficiency than exists in any of our present cities or even in the classic "neighborhood" concept of Clarence Perry. The consequence of this decision is to diminish the importance of the town center.

The resulting pattern of the CCA new town is a clear expression of the decision that was made. We have a pattern of six neighborhoods, each looped by feeder roads and insulated from one another by parkways. Those functions which take place at the town level—high school, major shopping center, business, and local governmental facilities—are placed in one of the central neighborhoods, and it was assumed that the persons who work as teachers in the high school, as storekeepers, businessmen, or employees of local government would live in the same central neighborhood, thus keeping the same relationship of home to work as exists for the small industrial plants in the other five neighborhoods. As a consequence, it is difficult to differentiate the town center from any of the other neighborhood centers,

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<sup>1</sup> CRITICS: Professors Martin Wagner and Walter Gropius and Mr. John Harkness.



except by its slightly increased size.

The neighborhood, thought of as a social unit and as the basic building-block of the CCA new town, is in itself a bundle of clearly conceived aims and ideals. In size of population and in area the aim is to provide a unit which can economically support one elementary school and a shopping center for convenience goods, and where children can safely walk to school. Complete separation of walking and driving is demanded and achieved not only as a safety ideal but also as a unifying social force. Of equal importance is the inclusion of light industry within the neighborhood whose community identity has been further reinforced by giving its citizens a small measure of local governmental autonomy.

The design solution reflects the clarity of these ideals. Each neighborhood achieves a remarkable physical as well as social unity. Throughout, one senses a looseness and openness which is in marked contrast to our present crowded cities. Yet the whole is built with the greatest economy of means. It is interesting to note that the size of the superblock thus created is 400 acres compared with 35 to 50 at Radburn, 80 at Baldwin Hills,

and 14 at Greenbelt, Maryland, and yet the longest walk to school, to center, or to work, is half a mile.

The CCA plan is aimed at setting up ideal relationships of home, work, school and play. But a certain parochial quality may result from concentrating attention on finding these ideal relationships in so small an area as the neighborhood. The plan spotlights many other critical questions. Does the neighborhood provide a sufficient base for the shopping and industry planned? Will workers find a wide enough choice of jobs without disrupting seriously the ideal work-home relationship planned? Can a sufficient number of industrial plants be found which are free of the normal requirements of agglomeration? Can reasonable provision be made for growth of local industry or for flexibility? Do traffic volumes on closed residential streets really require separate walkways? If cars are to be used for shopping in any event, will not the circuitous routes resulting from the route-primacy of pedestrian traffic produce excessive expense and frustration? Finally, is a neighborhood given so large a share of the functions of a town too restrictive a social environment for

Americans? Will growth and change, inevitable in any community, break down the nicely balanced neighborhood pattern?

A final comment on the CCA plan is that, with such heavy concentration on the neighborhood, the town has lost unity as a social and political entity. This loss shows up in its pattern, which has nowhere a focal point for civic unity. Whether this focus is a space or an architectural expression, greater consideration ought to have been given it, for a sense of civic unity and pride is too lacking in our present cities.

#### THE SUDBURY TOWN—1946 <sup>2</sup>

The assumptions underlying the Sudbury town of 1946 are the generally accepted goals of town planning thought in recent years. The town is conceived as an economic and social unit with a civic and commercial center and a separate industrial or employment area. The neighborhoods are treated as primarily residential, each oriented around a walking-distance elementary school and neighborhood shopping center.

The chief virtues of this plan are

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<sup>2</sup> CRITICS: Professors G. Holmes Perkins, Marcel Breuer and Hugh Stubbins.

in its balance between theoretical principles and design realities. Thus there is separation of vehicular and pedestrian traffic, but not the complete separation of rigid adherence to a dogma. The architectural possibilities of focus along the radial roads to the town center have been fully exploited, as have the natural advantages of the hill and the lake. The town has a center to express its unity.

With two large areas for industry, as opposed to the five neighborhood industrial areas in the CCA plan, this plan should be able to provide greater flexibility and expansion for industry. For the resident worker, this means a wider choice of jobs. Yet even these larger areas might be considered insufficient for modern industry, so that there might be more commuting and less balanced employment than planned.

#### FIRST SUDBURY NEW TOWN 1949 <sup>3</sup>

A series of different decisions, many of them running counter to the aims taken for the CCA plan,

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<sup>3</sup> CRITICS: Planners: Professors G. Holmes Perkins and William L. C. Wheaton. Architects: Professors Walter Bogner and Hugh Stubbins. Landscape Architects: Professors Bremer Pond, Norman Newton and Lester Collins.

produced the pattern shown in this new town for Sudbury. The first decision that was made was that the plan should be for a town unified as far as possible, without sharply separated neighborhoods. This decision was made on the premise that, although there may be definite hierarchies of activities within a community, their tributary areas do not necessarily coincide. For example, the enforced equalizing in the neighborhood of the tributary areas of elementary school and shopping center may make one or the other an inefficient unit. It was further argued that such problems would be aggravated in new towns where families, tending to like-age groups, would pass through the family cycle together.

A necessary corollary to this decision is that transportation, whether foot or automotive, should be so arranged that people can get easily to any center of activity without traffic conflict, either in type, or volume, of use. Subsidiary decisions in the Sudbury plan were that there should be a focus on the town center, that elementary school children should not have to cross a major road on their way to school, and that, although the majority of industry would be constructed in an industrial estate

to one side of the town, certain light industries should be located nearer the homes for the convenience of the workers.

The expression of these ideals is well worked out, although not in the detail that we see in the CCA plan. Advantage is taken of a long, narrow lake, and the town formed in a U around this lake with the town center at the bottom of the U. Divided major streets form the backbone of the communications system, and we find convenience-goods shopping centers located along these roads at intervals where their tributary areas will be sufficient to enable them to function efficiently. Light industrial plants are similarly located. To keep small children away from major streets and in a more open environment, the elementary schools are located at the edge of the built-up area adjacent to open country.

Where the CCA new town was primarily interested in finding an ideal community pattern in the neighborhood and achieved this by returning to the neighborhood many of the functions (e.g., industry) which have been lost through increasing specialization within the metropolis, the first Sudbury (1949) new town is based on find-

ing a pattern for a town which will allow all the existing, complicated forces at work in a town to pull together without conflict. In achieving this aim, Sudbury 1949 is not perhaps completely successful.

One criticism that might be levelled at this plan is that it has created barriers and speedways in its major streets. This is a major problem in trying to achieve unity and focus in an automobile age.

Particularly one feels that the secondary shopping centers in this plan need restudy. By being located on the major streets they are definitely intended for motor traffic, yet any shopper would find the town center only two or three minutes further away, with a much greater selection of goods. Again, location on the major roads makes it inconvenient for the residents who live on the opposite side of this thoroughfare. It is this type of practical criticism which is the final test for any pattern, for no matter how excellent the philosophy, failure to control small details satisfactorily may destroy the whole solution.

#### SECOND SUDBURY NEW TOWN 1949<sup>4</sup>

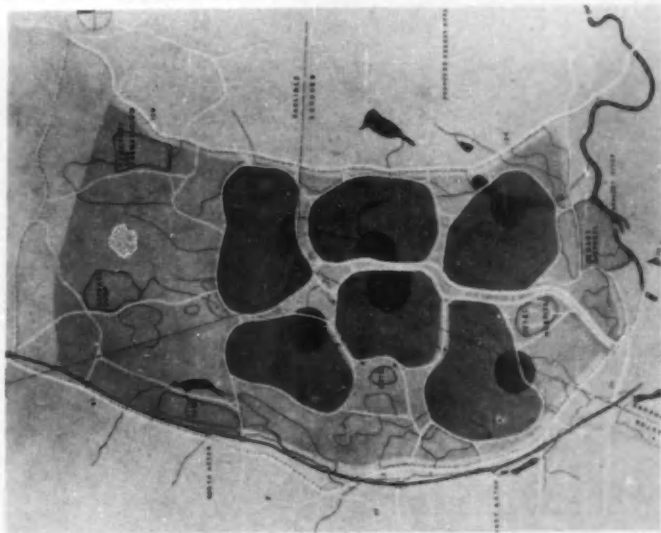
The most telling point in argu-

ing for new towns is that one should be able, by starting on empty land, to plan a town that is so much better for living than existing cities that people will not only migrate to these new towns, but will be willing to spend slightly more for such an increase in their standard of living. Perhaps the greatest advantage new towns have over existing cities is in their spaciousness. The second 1949 Sudbury scheme is based on the idea that people coming to a new town will want the utmost in country living. In the first sketch the plan showed a scattering of neighborhoods over the site with at least a half mile between each. In the final form, shown here, much of this original looseness was lost.

The plan is an admirable school-district and shopping-pattern study. Note how each of the neighborhoods groups around an elementary school, how a set of four neighborhoods groups around a junior high school, and how the two wings of the town focus on the high school. Much the same obtains for shopping. The distance between the residential area and the high school and major shopping center is perhaps only defensible on the as-

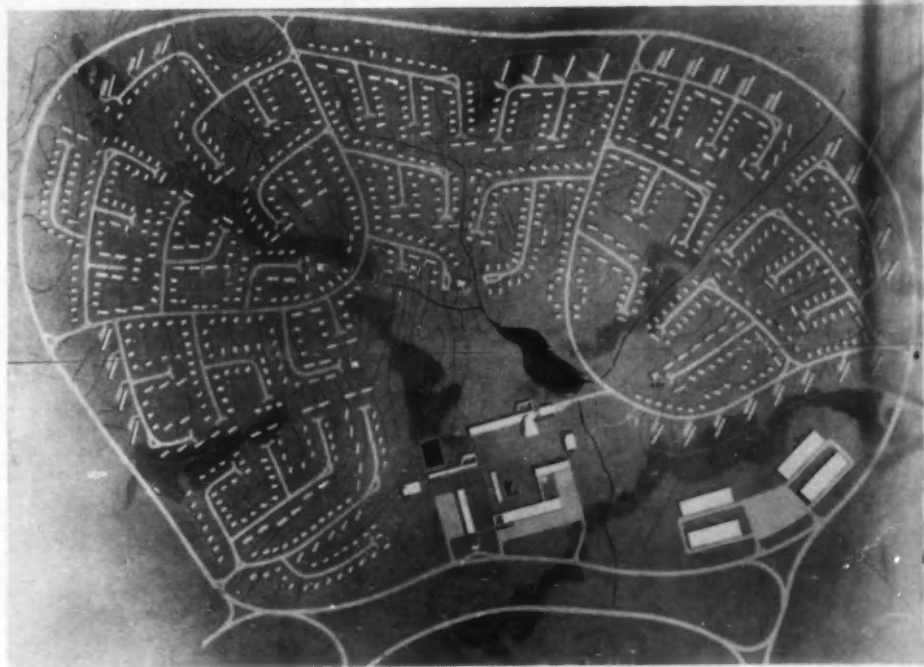
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<sup>4</sup> Same critics as in the First Sudbury New Town, 1949.

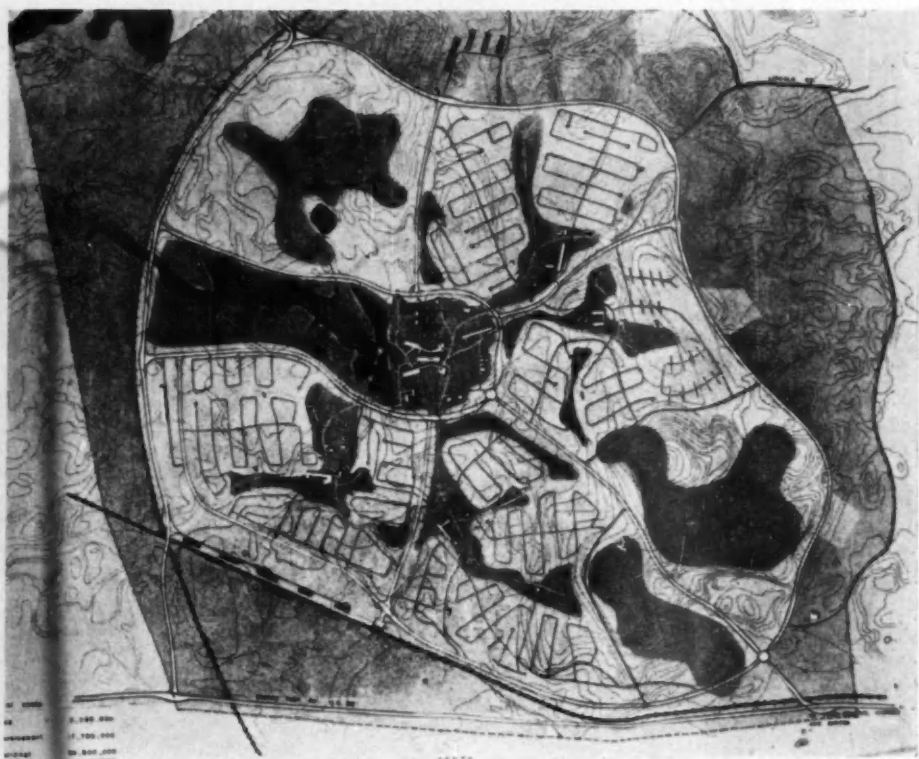


CCA 1946: FIVE NEIGHBORHOODS AND TOWN CENTER

DETAIL OF ONE NEIGHBORHOOD, SHOWING SCHOOL, SHOPPING CENTER AND INDUSTRY







SUDBURY 1946:  
PLAN OF NEW TOWN





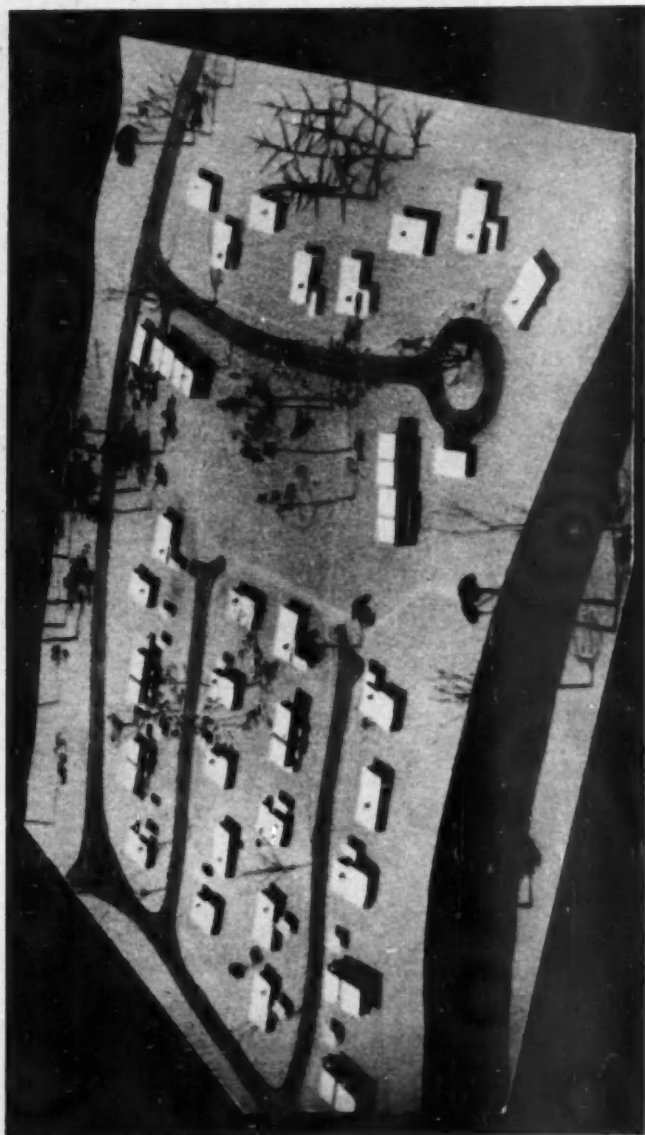
SUDBURY I, 1949:  
PLAN OF NEW TOWN



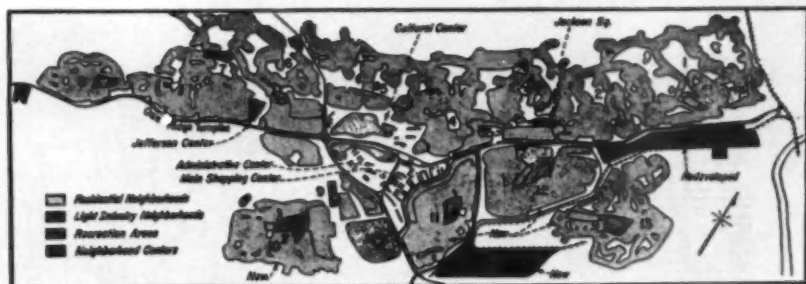
SUDBURY II, 1949: MODEL OF THE TOWN CENTER



SUDBURY II, 1949:  
PLAN OF NEW TOWN

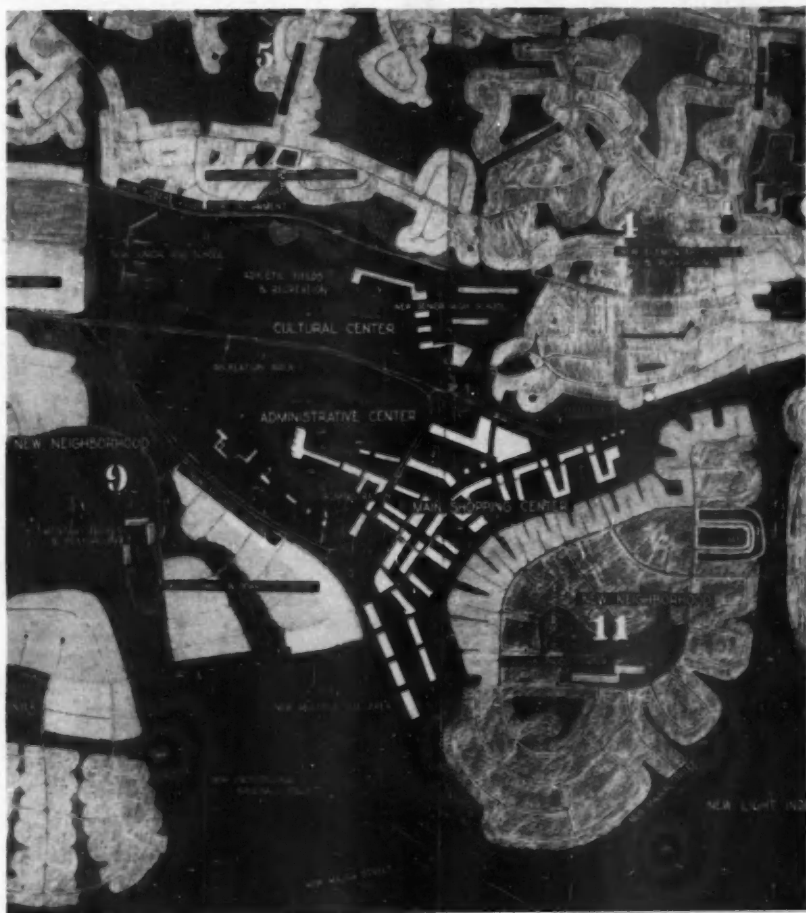


MODEL OF A VILLAGE UNIT  
FROM A STUDY OF A RESIDENTIAL NEIGHBORHOOD FOR NATICK, MASS.



By courtesy  
of Engineering  
News Record

OAK RIDGE, TENN.: SCHEMATIC PLAN OF TOWN  
BELOW, DETAIL OF CENTRAL AREA







sumption that everyone in America will ride. Yet even if this premise is acceptable one might question the feasibility of creating in such detached isolation a center which should foster in the minds of the townspeople a sense of community solidarity.

#### DESIGN OF SMALLER RESIDENTIAL AREAS

We have said that a design for a city must meet social requirements, must be organized for an efficient economic life, and that it must have good physical design. Such a statement should also apply to the design of smaller residential areas.

In each of the new towns discussed the detailed study of residential areas smaller than a neighborhood is lacking. The experiments of Radburn and Baldwin Hills, and the more recent social studies of Merton, have provoked a search for housing layouts which would encourage the formation of small communities with real social cohesion. We have said that the town forms a certain unit, pulled together by local government and other common functions. The neighborhood of 5000 population is about the proper size for an elementary school. But it is felt

that where real neighborliness and social cohesion are concerned the 5000 neighborhood is too big and that a smaller unit is needed.

The Reilly plan with its oval green surrounded by houses is a unit of small scale, but this plan was rejected as a design solution for America because of its inaccessibility by car. The village unit illustrated here is an exploration into a community grouping of this nature designed for American habits. We see that two cul-de-sac focus in toward the village green, an expression of unity, while a third cul-de-sac borders the green, giving it "front-yard" appearance. In a unit of this scale it is easier to shade housing, street, and park-playground into one unit than in a larger grouping of houses, where greater activity demands greater specialization of function.

#### CONCLUSION

The most important conclusion that should be drawn from studying these four examples of new-town design is that there must be a most careful balancing of aims, and that any change in the relative emphasis given the aims will have a decisive effect upon the form of the final plan. A city is a big, complicated instrument. To precise

our social and economic objectives will require time and tireless research; to clarify the effects of differing town design upon social habits and the human spirit will require intensive exploration. His-

torically the time has come when speculation in the drafting-room or scholar's laboratory must be supplemented by building and by putting our ideas to the acid test of human use.

#### THE HARVARD STUDIES

### The Economic Feasibility of New Towns

*By William L. C. Wheaton<sup>1</sup> and Robert L. Wegner<sup>2</sup>*

THE NEW TOWN PLANS developed at Harvard in 1946 and 1949 were based upon social, economic and administrative programs which resulted from research preceding the actual design work. These programs specified an initial population size and composition for each town, and established cost, financing and legal requirements. The principal economic and social facts regarding the towns are presented in the four tables accompanying this article.

The major economic and social objectives of each of the studies were threefold. The towns should be designed to accommodate a population representative of the Boston metropolitan area. The

towns must be financially self-supporting. The towns were intended to be of such a size as to minimize the costs of operation over a long period of time and to maximize their amenity value.

*Town Size.* Town size was determined largely on a basis of the cost of municipal services in Massachusetts cities and towns. Preliminary studies seemed to indicate that municipal operating costs were lowest in communities of from 7,000 to 30,000 population. Below and above this population range, per-capita municipal expenditures appeared to rise sharply without any very obvious increase in amenity. Within the indicated size range the minimum town size for an efficient school system including high school and two junior high schools was 20,000 people. This size also appeared to be the minimum necessary for any reason-

<sup>1</sup> Associate Professor of Regional Planning, Department of Regional Planning, Graduate School of Design, Harvard University.

<sup>2</sup> Graduate student in Regional Planning, Harvard.

ably well-balanced employment composition which included industrial jobs. The 1946 towns were eventually planned for populations of approximately 25,000 people. These were initial populations and some margin was left for normal family increase. In future plans it is felt that considerably more flexibility for expansion might well be provided, even though the ultimate size should be limited to some optimum figure.

*Rate of Construction.* The 1946 towns were planned for construction during a two-year period. It was then felt that early completion of the town would minimize costs and assure that the town was in fact completed. Even at this rate of construction, the total volume of building going into the new towns represented less than 20% of the construction volume for the metropolitan area. The 1949 towns were planned for construction over an eight-year period. At such a rate a new town would divert less than 5% of the construction resources of the metropolitan area.

*Population Composition.* The objective of the town plans was to provide for a population composition roughly comparable to that of the Boston metropolitan area with respect to family size, income and

occupation. The 1946 town plans assumed that family size in Boston would continue to decline in accordance with pre-war trends. The 1949 studies increased average family size to 3.8 persons, both because of the rising local and national trend and also upon the assumption that a satellite community of the character planned would be unusually attractive to families in the children-raising years. This assumption presents difficulties in later years as the population matures and the number of children increases and then declines.

The income distribution of the towns presented serious dilemmas, since the objective was to avoid the creation of just one more high-income suburb. The plans assumed that most of the residents would work in the town. This required industrial establishments and therefore industrial wage-level groups. When low-paid service workers are added to the resident population, the total wage structure and family-income distribution begins to approximate that of any typical metropolitan area. A large proportion of such families cannot afford new housing, however. For this reason the income range was narrowed by eliminating some of the lowest-in-

**TABLE 1**  
**COMPARATIVE STATISTICS**

	<i>CCA 1946</i>	<i>Sudbury 1946</i>	<i>Sudbury II 1949</i>
1 Population	28 000	25 800	20 900
2 Number of Families	8 000	7 620	5 490
3 Average Family Size	3.5	3.3	3.8
4 Children Age 5-14 per Family	.53	.50	.61
5 Average Employed per Family	1.3	1.3	1.5
6 Number Locally Employed	8 750	8 310	8 030
7 Commuters	1 650	1 600	400
8 Industrial Floor Space (sq. ft.)	750 000	600 000	1 160 000
9 Industrial Floor Space per Worker	160	150	250
10 Number of Dwelling Units	8 400	8 000	5 720
11 Average Cost per Dwelling Unit	\$8 947	\$8 965	\$11 540
12 DUs per Residential Acre	7.0	8.6	7.1
13 Total Linear Feet of Road	363 000	200 000	312 000
14 Annual Income per Capita	\$1 100	\$1 360	\$1 420
15 Annual Income per Family	\$3 865	\$4 910	\$5 395
16 Development Cost per Capita	\$4 970	\$5 440	\$5 710
17 Development Cost per Family	\$17 395	\$18 420	\$21 740
<i>RATIOS</i>			
18 Development Cost to Annual Income	4.5	3.7	4.0
19 Residential Cost to Annual Income	2.4	1.9	2.3
20 Other Costs to Annual Income	2.1	1.8	1.7
21 DU Cost to Annual Family Income	2.3	1.8	2.1

(All dollar figures have been adjusted to 1950 values.)

**TABLE 2**  
**NEW-TOWN DEVELOPMENT COSTS**

[In thousands of 1950 dollars]

	<i>CCA 1946</i>	<i>Sudbury 1946</i>	<i>Sudbury II 1949<sup>1</sup></i>
1 TOTAL DEVELOPMENT COSTS	139 162	140 371	119 366
2 Land Acquisition	873	1 853	1 831 <sup>2</sup>
3 Land Development	16 694	21 781	15 060
4 Highways, Sidewalks, Utilities, etc.	12 679	10 929	7 796 <sup>3</sup>
5 Parks and Playgrounds	3 622	8 873	6 953
6 Public Parking Facilities	393	1 979	311

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TABLE 2—Continued

	<i>CAA 1946</i>	<i>Sudbury 1946</i>	<i>Sudbury II 1949</i>
7 <i>Buildings</i>	103 852	101 405	85 478
8 Residential	75 156	71 720	66 006
9 Municipal, incl. Schools	12 115	10 971	6 734
10 Commercial	8 250	9 580	2 588
11 Industrial	6 248	6 997	8 150
12 Religious	2 083	2 137	2 000
13 <i>Incidentals</i>	17 743	15 332	16 997
14 Interest during Development	4 831	2 344	1 173 <sup>4</sup>
15 Overhead	6 248	6 336	5 533
16 Contingencies	6 664	6 652	10 291

<sup>1</sup> Sudbury II 1949 costs based on preliminary design.

<sup>2</sup> Unit land costs in 1949 were roughly 1½ to 3 times 1946 figures.

<sup>3</sup> Excludes gas and electricity which 1946 studies included.

<sup>4</sup> Interest on public development (20% of total development).

TABLE 3  
NEW-TOWN DEVELOPMENT COSTS

## Percentage Distribution

	<i>CCA 1946</i>	<i>Sudbury 1946</i>	<i>Sudbury II 1949</i>
1 TOTAL DEVELOPMENT COSTS	100.00%	100.00%	100.00%
2 <i>Land Acquisition</i>	.63	1.32	1.53
3 <i>Land Development</i>	12.00	15.52	12.61
4 Highways, Sidewalks, Utilities, etc.	9.12	7.79	6.53 <sup>1</sup>
5 Parks and Playgrounds	2.60	6.32	5.82
6 Public Parking Facilities	.28	1.41	.26
7 <i>Buildings</i>	74.62	72.24	71.63
8 Residential	54.00	51.10	55.33
9 Municipal, incl. Schools	8.70	7.82	5.63
10 Commercial	5.93	6.82	2.17
11 Industrial	4.49	4.98	6.83
12 Religious	1.50	1.52	1.67
13 <i>Incidentals</i>	12.75	10.92	14.23
14 Interest during Development	3.47	1.67	.98
15 Overhead	4.49	4.51	4.63
16 Contingencies	4.79	4.74	8.62

<sup>1</sup> Excludes gas and electricity which 1946 studies included.



TABLE 4  
LAND USE — CCA 1946

	<i>Total</i>	<i>Town Center</i>	<i>Neighborhoods</i>	<i>Other</i>
1 Total Acreage Acquired	5 240	296	1 976	2 968
2 Greenbelt Acreage	2 694	—	—	2 694
3 Developed Area Acreage	2 546	296	1 976	274
PERCENTAGES OF DEVELOPED AREA				
4 TOTAL	100.0%	11.6%	77.7%	10.7%
5 Residential	47.3	5.6	41.7	—
6 Commercial	1.0	.2	.6	.1
7 Industrial	3.0	—	3.0	—
8 Religious	1.0	.1	.6	.3
9 Public Buildings	11.8	.8	.7	10.3
10 Schools and Playgrounds	3.0	1.1	1.9	—
11 Circulation	13.7	2.1	11.6	—
12 Streets	9.9	1.4	8.5	—
13 Walks	2.1	.4	1.7	—
14 Parking	1.7	.3	1.4	—
15 Parks	19.2	1.7	17.5	—

come families that would normally be found in a community. Per contra, it was assumed that very-high-income families would not be attracted to a "cross-section" community.

The 1946 studies indicated that even with this income composition, grave difficulties would be encountered in financing the new towns on a self-supporting basis. Accordingly the 1949 studies assumed arbitrarily that the new towns, with their higher amenity values, would attract a higher proportion of two-worker families than normal, and that these families would supply secondary workers for the lower-paid service and industrial jobs. Further, both studies as-

sumed initially that as much as a quarter of the labor force would be employed outside the town.

The income composition of the town also depends upon its industrial composition and the occupations planned for the community. It was assumed that light manufacturing and specialty plants would provide 40% of the jobs of the community. The industrial-employment program would require that a substantial proportion of the new plants in the metropolitan area be located in the new town.

It should be noted that the walk-to-work concept can become a reality in a full sense only if houses are made available as jobs become available. Even then the propor-

tion of residents working in a community might normally decline with the passage of time. If the amenity value of the community exceeded that of other communities as a place of residence, families would tend to continue to live in the community though their jobs were transferred to other parts of the metropolitan area. Thus, within limits, as jobs changed, less and less residences would be available to newly recruited workers. Only a wholly unrealistic degree of occupancy control could maintain a situation in which more than 70% of the workers in the town were also residents.

*Development Costs.* The estimated costs for the new towns are summarized in Tables 2 and 3. The costs were based on available construction-cost data for standard dwelling and other building types in a period of rapidly changing costs. Although the figures presented have been raised to 1950-dollar levels, their chief value is as an indicator of cost ratios. Variations in the results shown are in part due to differences in accounting method: for instance, although all of the town plans assumed that the town would connect in the metropolitan water and utility systems, the 1946 town costs in-

clude capital costs of installing gas and electricity, while the 1949 costs assume that these will be provided by the metropolitan utility firms and will be amortized through service charges.

Construction-cost differences also arise because of differences in the facilities provided. The 1946 CCA towns included a wide range of community services at the neighborhood level, and several expensive town facilities. In 1949 there was a conscious effort to hold down the number of social and welfare structures which might add to the town cost.

The proportion of commercial buildings was quite high in the 1946 studies, as a result of assumptions that 52% of consumer expenditures would be made in the town, and that the sales volume per square foot of commercial building would be approximately \$30. In 1949, on a basis of studies made in the intervening years, consumer expenditures in the town were assumed at 40% and sales per square foot were raised to \$60. This resulted in a substantial reduction of commercial area requirements.

The industrial construction provided in 1949 is substantially greater than that of 1946. Al-

though the ratio of industrial workers was reduced, larger floor-area requirements per worker increased the industrial building requirements. Differences in other costs shown are dependent largely upon interest rates, contingency allowances, and sponsorship. The 1946 plans contemplated private development corporations borrowing at commercial rates over a two-year period. The 1949 public corporation borrowed at public interest rates. The 1949 study eliminated interest costs on nearly half of the town cost by its assumption that 80% of the housing would be privately built.

*Administration and Organization.* The 1946 CCA study planned that the towns should be built by a private limited-dividend corporation somewhat comparable to the original sponsors of Letchworth and Welwyn. This development corporation was to build the entire town, including residential, commercial, industrial and public buildings. At the end of the development period, public buildings and land were to be turned over to the municipal government upon the assumption by it of debt corresponding to the costs of public buildings. The costs of streets, sidewalks and public open space

were to be assumed by the development corporation, charged in varying degrees to other land uses and financed from rents and other operating income.

It will be noted in this connection that cost allocation is of considerable importance. The costs of central streets, parks and many other services cannot be allocated exactly to any of the ultimate revenue-producing land uses. They may be allotted on basis of ability to pay, in proportion to construction cost, or by some multiple-factor formula. The retention in single ownership of the normally private facilities of a community does not eliminate the problem.

The 1946 Sudbury Town contemplated that the town would be built by a cooperative. The occupants' equity capital eventually would replace the initial equity of a development corporation. This plan contemplated that the cooperative would sell land for public buildings to the municipal government, which would then assume responsibility for their construction and financing. The cooperative would finance, build and own the normally private residential, commercial and industrial buildings.

The 1949 second Sudbury new-town plan contemplated the con-

struction of the town by a public development corporation chartered under state law as an instrumentality of the commonwealth. This public corporation would be responsible for the construction of the community facilities including public buildings, which would be turned over to the municipality at cost and upon completion. Residential land was to be sold to private developers, or, in the case of 20% of the housing, to a local housing authority. All of the industrial facilities were to be privately built. The development agency would lease commercial sites to private developers for a percentage of gross sales. The 1949 plan also contemplated that the public development corporation would take full advantage of any available Federal or state subsidies or grants-in-aid received by other municipalities. After completion of the town the plan contemplated the establishment of municipal government, which would assume any remaining indebtedness of the development corporation. Under this plan the only extraordinary financing requirement is that loan capital be available from some state or Federal source at public-credit terms.

*Operating Costs.* One major

test of the possible success or failure of a new-town program will be the ability of the towns to meet their operating costs, or at least to offer a higher standard of living at costs which are not greatly in excess of those found in existing communities. The 1946 town studies indicated that a new town's budget could be balanced only if virtually all of the town is maintained in single ownership, either by a municipality, or by some quasi-public corporation. Even under these circumstances, one of the towns required an annual subsidy of approximately 1% of its capital costs.

The 1949 studies made full use of the subsidies and grants-in-aid which are currently available to other municipalities in Massachusetts. The town also required the use of a substantial amount of state or Federal Government credit for loans during the construction period. With this credit assistance, and without any direct subsidy, the town's budgets were balanced and the town proved to be economically feasible. It should be particularly noted that this town plan contemplated that private capital should do most of the residential, commercial and industrial building.

The municipal budget for the

1949 town showed per-capita operating costs of approximately \$90 per year, or roughly 10 to 20% higher than the going costs in towns of comparable size. These slightly higher operating costs provided a substantially higher standard of service and amenity. The tax rates for this town after adjustment to the normal assessment ratios prevailing in the area would be slightly lower than those found in other comparable communities. This lower tax rate would arise largely because of the higher average assessed value of a newly built community. Sources of revenue other than the property tax were also estimated at a slightly higher level, perhaps too optimistically.

#### *Legal and Political Problems.*

No great extension of the powers of government would be required to launch a new-town program. The power of condemnation of land is now exercised for public functions including slum clearance and housing. Condemnation of vacant land for town-building purposes would surely be upheld on a basis of national defense. A more knotty problem is the creation of new municipal boundaries. The impact of a new town upon a suburb or rural community would be quite heavy. The new towns

show debt ratios which exceed existing debt limits by 100% or more. Under these circumstances, it would be to the advantage both of the existing municipalities and of the new one to create a new municipal jurisdiction for so much of the area as is included in the new town. Special arrangements would be necessary to permit borrowing beyond normal debt limits and in advance of the creation of much of the taxable values of the community. None of these legal obstacles seems insuperable.

Political and administrative problems may be much more difficult. The readjustment of municipal boundaries would require the exercise of state powers and would arouse local political opposition. The relationship of the new town to its metropolitan base would require metropolitan-area planning. New towns could not be built without state or Federal initiative and administrative responsibility. State action would also be of material assistance in achieving the difficult transition between the building authority and the new municipal government, which would have operating responsibility for the new town upon completion.

*Conclusions.* The Harvard new-



town studies suggest the economic feasibility of new towns for America as a solution to the grave peacetime problems of congestion, blight, industrial location, and housing shortage. No Government subsidies would be required if a high proportion of the revenue-producing facilities of the town were maintained in municipal ownership. If our normal patterns of private ownership were followed, the towns would require all of the grants and subsidies now available to municipal governments, including Federal and state aids to education, highways, housing, welfare and other services. It appears quite possible that the Federal and state aids necessary to maintain a new town with its higher standard of living might be no greater than those required to maintain the low standards of service and amenity found in existing communities.

If new towns are to become an enduring feature of the American scene, it is apparent that they will have to prove economically self-supporting, and that they should seek active participation by private investors. The Harvard studies indicate that if these objectives are to be achieved, a number of conditions must be met. The income

distribution must be slightly higher than that prevailing in an average metropolitan area. Special public credit on a full repayment basis must be available. Special municipal debt ratios will be required. While the new town can have substantially more amenity than existing communities, caution must be exercised in the provision of municipal social and welfare services. A concentration of consumer expenditures within the town's shopping areas would materially assist in meeting the fiscal problems of the town. The attraction of industry to the community would require favorable tax rates. With these qualifications, and assuming a willingness on the part of the consumer to pay slightly more for a markedly higher standard of living, there are no insuperable economic obstacles to a new-town program.

Politically the obstacles are enormous. Farsighted state and national leadership, conscious of the need for planning and for the planned decentralization of our existing metropolitan areas in the interests of better living and working, and in the interests of national defense, could overcome these difficulties.

## British New-Town Planning

*By William G. Holford \**

**H**ALF A CENTURY of new-town planning in Britain shows a distinct spreading out of the two main impulses that established it initially as a form of private enterprise and later as an instrument of government policy. One of these impulses was the desire to escape from the bad living conditions of the big towns. This impulse to escape has now been transformed into an organised movement for decentralisation.

The second motive for new-town building was that of the paternal industrialist to provide model dwellings for his workers, conveniently near to his factory. The principles underlying the layout of Saltaire and Port Sunlight and Bournville were essentially the

same as those which induced government to build hostels of small-town size near to some of the war plants.

The chief modification of principle here has been a spread in the range of employment, so as to avoid both the "tied house" and the "company town."

Both these impulses are covered by the purposes of the New Towns Acts of 1946; and the reason why this is possible is that a certain body of doctrine had been established—mostly by Howard and the Garden Cities and Town Planning Association<sup>1</sup>—and had been accepted with only a few reservations by those who wanted to develop and those who wanted to preserve the countryside.

The doctrine of Ebenezer Howard and his followers is well known; what is significant in the British new-town movement since the war is the indication of development and variation of the principles. These are well represented in the annual reports and accounts of the Development Corporations

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\* Professor of Town Planning, University of London and currently Visiting Professor of City Planning in the Department of Regional Planning, Harvard University. Mr. Holford was formerly Lever Professor of Civic Design at the University of Liverpool, and Chief Technical Officer of the British Ministry of Town and Country Planning. He is planning consultant for the cities of London, Cambridge, and Pretoria, South Africa, and has been connected at various times, either as architect or planner, with a number of notable British industrial, housing and new-town programs.

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<sup>1</sup> Now the Town and Country Planning Association.

for the three years from 1948 to 1950.<sup>2</sup>

The principle of the limited size and the surrounding belt of agricultural land is still retained. But the optimum or planned limits of population now vary considerably from 10,000 at Aycliffe to 25,000 at Hatfield, 36,500 at Welwyn Garden City and 60,000 at Hemel Hempstead and Harlow. There is also a section of opinion advocating higher limits.

The greenbelt is also regarded as capable of modification. Hatfield and Welwyn Garden City, for example, have been designed as Silkinese if not Siamese twins, with a narrow green strip dividing the territories of the neighbouring corporations and the whole surrounded by agricultural land. Corby, when established this summer, was given a restricted area of land and a preliminary limit of population of 40,000; but the Minister's Order itself provides that both size and area shall be enlarged if the survey and plan show this to be desirable. [See illustration page 34.]

The two major elements of the

new towns, housing and industry—which are regarded as complementary at all stages—are part of the national development policies administered by the Ministry of Health and the Board of Trade, respectively. Both have suffered from having to take their place in the queue along with the demands of the big towns and the county districts on the one hand, and of the so-called "Development Areas"—vulnerable to unemployment—on the other. Of the two, the delay in the establishment of new-town industries is probably the more critical in the long run, for this tends to emphasize the dormitory character of the new towns (nearly all of which are, in a small country like England, within the working orbit of a large industrial centre). It also accentuates transport problems and upsets the estimates of population grouping on the basis of character, income and employment, on which the plan has been based.

Subject to capital economies and to a certain lack of definition of development policies on the part of one or two government departments, the general principles of layout and design in the new towns are fairly clear. What is more, they are being made increasingly

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<sup>2</sup> Reports of the New Town Corporations for the periods ended 31 March 1948, 1949 and 1950, respectively (H.M. Stationery Office: London).

clear to the public, and particularly to the present and prospective townfolk. The factories are not hidden away, but are located in one or two industrial areas reached by routes which pass close to the town centre, and which are laid out to meet the needs of road and rail transport, quick expansion, cheap and level foundations and adequate disposal of effluent.

The schools follow a familiar pattern; the primary ones being folded within residential neighbourhoods, the secondary schools usually between neighbourhoods and on the town's major circulation system, and so arranged that their playing-fields join up with other open land.

Shopping centres show considerable differences from American practice—neither the supermarket nor the automobile being in such common use. Occasional shops serve groups of houses and there is a group of fairly small shops within ten minutes' walking distance of most houses in a neighbourhood. Even the town centre can be reached in a pedestrian circuit, and although parking places are provided to an extent unforeseen either at Letchworth or Welwyn thirty years ago, the main concern is with footways, public-

service-vehicle routes, and deliveries, and only secondarily with the convenience of the private car. It is possible that this will prove to be a shortsighted policy; but it is certainly characteristic of present practice.

Another marked difference between American and British methods of urban development is in the use of private open spaces. New towns in England use the enclosed garden of the single- and two-family houses as a breakdown between private interior space and public exterior space. This garden may be nothing more than an outside room, in which the family sit out in fine weather and very young children can be left while the mother looks after the housework. On the other hand, it may be big enough to give scope for recreation and exercise or for the growing of flowers and vegetables. In either case they are fenced; and this makes the layouts of the *culs-de-sac*, the rows or terraces, and the housing groups quite different from those which are common in American practice. Blocks of flats or apartments, on the other hand, particularly those which are set in open park land, are somewhat similar. The tendency in Britain

is to avoid blocks which are long as well as high. Stevenage is building now a block of seven floors, but its frontage is not very long. Harlow has built a single tower block of nine storeys (with four small apartments per floor) grouped with other buildings only two or three storeys in height. The design problem everywhere is to combine dwellings of different size and type in a group which is in scale with the landscape on the one hand and with social custom on the other. Preliminary social surveys are handicapped because personal judgments are limited. A family from a London slum or from congested row houses of "by-law" type does not know what a good terrace house or a good apartment is like to live in. The greatest value of the new-town experiments is to introduce new types of dwellings and new combinations of dwellings to a wider section of the public.

Those towns whose main function is to draw off population from the big cities are attempting to give themselves an element of special or individual character. Administratively, their Development Corporations are quite independent, although they are subject to financial control by the Minister of Town

and Country Planning and the Treasury, and have a good deal of fraternisation to accord to the local authorities in the area where they operate.

On the design side, both officers and consultants follow the common doctrine to a certain extent, but the present tendency is towards excessive variety, and sameness is out of the question. About half the designs of buildings in the new towns are put out to private firms.

The biggest open question in the British New Towns is, in fact, the success or otherwise of the new-town centres. Progress is not far enough advanced to show whether they will establish themselves in their own right, and if so whether they will provide an element of urbanity and of civic design in the midst of what are essentially loose patterns of residential development at low density. Designs for centres are constantly being modified; and that for Crawley, which has been recently redrawn, has of necessity to build itself up as an extension of those attractions which are already there. [See illustration page 34.] At Corby on the other hand, an entirely new centre is the essence of the whole new-town project [bottom of page 34], based on (1) an open market with



surrounding shops, (2) a bus station into which existing bus routes are being drawn, (3) a police and fire station with other municipal services, and a post office, (4) a shopping centre with two or three multiple shops and a big restaurant

or cafeteria, (5) a standard office block of two floors to suit municipal and commercial tenants who may later move into bigger buildings, and (6) a town football ground with a parking area and playground attached.

## They Say:

**Thomas S. Holden**

PRESIDENT, F. W. DODGE CORPORATION

*(Speaking before the 1950 Convention of the New Jersey Chapter, A.I.A., June 25, 1950)*

It has been said that the previous improvement in productivity per man hour, averaging 2% annually, required an annual increase of 3% in equipment. To step up productivity in the future may require an annual increase in net capital formation of more than 4%.

**Dr. Ralph E. Lapp**

*(In an address before the American Conference on Foreign Affairs at Colgate University)*

Our civil defense headache centers in our large cities. To provide truly effective civil defense we must undertake before-the-fact preventive measures, such as dispersion over a long-time base and evacuation in time of a threatened attack.

Our basic strategy must be to have done our job before the bomb drops. Any civil defense plan which is based upon after-the-fact relief measures is doomed to failure. The magnitude of an atomic attack is potentially so great that it will overwhelm us if we wait until the bomb drops to go into action. There is no magic defense plan which will allow you to stay in a city and still be safe.

**Joseph Hudnut**

*(in Tomorrow, February, 1950.)*

I know that structural truth is a prime virtue in architecture and serviceable space the foundation of its dignity. We have had in our time to rediscover these fundamentals, and it is not surprising that discovery has sometimes prompted us to forget a deeper source of architectural eloquence. Architecture, rooted in science and



utility, is yet an art and, being an art, can only be created through the processes of art.

T. M. Cleland

*In an address before the Society of Typographic Arts, Chicago.*

I had always supposed that the function of books was to be read, and would suppose now that if there was any change at all, it would be in the direction of making them more easily read and not less so. There does not seem to be any great change in *how* they are

read—people still stand or sit or lie right side up—that is they do not stand on their heads to read, though some of the things they are given to read might make them feel that way. Some of the margins I see suggest that the books are intended to be held upside down, and murder mysteries may now be read in one of these new chairs made of bent pipe with no hind legs in which a more or less conscious sense of physical insecurity will contribute to the “spine chilling” effect of the story.



## Architects Read and Write

*Letters from readers—discussion, argumentative, corrective, even vituperative*



### “THE PURPOSE OF LIGHT”

BY ROBERT LEROY KANE, Appleton, Wis.

THIS is to express my appreciation for the article entitled “The Purpose of Light,” by Ralph Walker F.A.I.A., in the December, 1950 JOURNAL.

I am delighted with the description of the Merchants' Limited in which Science and Art have joined hands to use “modern materials in a clean, modern way,” thereby nearly putting one's eyes out, due to the increased efficiency of the footcandles.

For years I have secretly cherished the opinion that the “beautiful glass balls” from the Bauhaus are “miniature and unfriendly

sun.” But never until now have I lifted up my voice or taken my typewriter in hand to denounce them.

There is no use commenting on every detail of the article. I like it the best of any I have seen in the JOURNAL since Mr. Maginnis' speech accepting the Gold Medal. One could wish that some of pseudo-scientists, mass producers and so-called contemporary designers would take Mr. Walker's article to heart and incidentally cultivate a little sense of humor. Anyone who thinks he doesn't need it should read some of the

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text which accompanies the illustrations of the "Endless House," currently appearing in various technical journals. I refer to such things as being sheltered and in-

tegrated in space (by light) instead of being isolated as a lonely pinpoint "in all that immensity." I purposely only quoted the last four words.

### THERE ARE TRADITIONAL CLIENTS

By JOHN J. KLABER, Huntington, N. Y.

ALL THREE of the principal architectural magazines now seem committed to the exclusion of traditional design. Both the *Forum* and *P/A* have taken this attitude for some time, and now the *Record* comes out with a statement to the same effect. In this month's issue I find the following, over the signature of one of the associate editors, and therefore presumably expressing the policy of the magazine:

"The architect indolent enough to produce an unthought-out version of 'Colonial' and label it a house is guilty not only because modern equipment, materials and techniques seldom do more than cramp his style; it is much more important that the routine of

domestic life has changed, and his architectural solution hampers that."

But what if a client comes to you and insists on a design with a more or less Colonial flavor? Must all reputable architects turn him away, and force him to have his plans drawn by some unqualified amateur? To say nothing of the fact that most of the stock millwork now available is more Colonial than modern in character, and that special millwork is very costly. In my own experience, few clients want the sort of houses that these magazines delight in publishing. And is it not the architect's first duty to give his client the sort of house he wants? Or is that an outdated concept?

### BUILDING DESIGN VERSUS ARCHITECTURE

By CHARLES C. PLATT, New York, N. Y.

NEED A BUILDING BE "ARCHITECTURE"? Architecture as a fine art must be the product of an artist. All designers of buildings are not artists, no more than a sign painter is an artist, though he wields much the same instruments as the artist. In fact, measured by

the high ideals of architecture, not all building designers can qualify in that category—and that need not be a calamity in itself.

In order to rate as a work of architecture, the building must be designed to endure, such as the examples that have come down

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through the past. The cost of such design work, in conception, labor and time, is in these days of technical complexities necessarily large, and beyond what could be economically justified for many of our buildings destined for more or less transitory use in a residential, commercial or industrial capacity.

The work of the average building designer of competence is pleasing to the eye but does not rise to the height of genuine esthetic importance; still, it fills the bill for owner and tenant and constitutes a new and clean contribution to the city's countenance.

By thus deferring to the economic demands of the day we are not guilty of trying to do the impossible; and if we carry the thought to its logical conclusion, many in the rank and file of architects should be rightly called "building

designers," and the title of "Architect" reserved to those who by talent and genius can merit the term, and who can financially reserve their activities to projects where "Architecture" is an express requirement of the program and where all concerned are able and willing to pay the price in time and in cost.

Let the architectural schools take heed and reserve the degree in "Architecture" and advanced learning in the art to the student who has demonstrated a spark of genius and a promise of fulfillment; and let the junior institutions that are now becoming an economic necessity in the fields of education provide building designers, draftsmen and writers of specifications to fill the needs of the day.

## News from the Educational Field

**T**RINITY COLLEGE, Hartford, announces the receipt of bequests to establish the S. P. and Barr Ferree Scholarship Fund, in honor of the late Samuel Patterson Ferree of Philadelphia and his son, the late Barr Ferree, architect and writer.

PRINCETON UNIVERSITY announces again the Lowell M. Palmer Fellowship in Architec-

ture, the purpose of which is to assist a student of unusual promise to undertake advanced study of architecture at Princeton. The Palmer Fellow will receive a stipend of \$1200. Applicants must be citizens of the United States, holders of a Bachelor's degree, less than 27 years of age on October 1, 1951, and in good physical condition. Applications with supporting documents must be received not

later than March 1 by Secretary, School of Architecture, Princeton University, Princeton, N. J.

YALE UNIVERSITY'S Department of Architecture announces the appointment of five architects to serve as visiting critics for six weeks or more during the current academic year: Richard J. Neutra, F.A.I.A., Philip C. Johnson, Paul Schweikher, Paul Weidlinger and Victor Christ-Janer.

NORTH CAROLINA STATE COLLEGE announces the return of

Lewis Mumford as visiting professor for his third year with the School of Design, and a similar appointment on the faculty for Joseph Hudnut, Dean of Harvard's Graduate School of Design. Messrs. Mumford and Hudnut will conduct a series of lectures and seminars during each of the school's three terms. There is also announced the appointment of R. Buckminster Fuller, Cloethiel Woodard Smith, Naum Gabo and Christopher Tunnard as visiting lecturers for 1950-51.

## Calendar

*January 19:* Great Lakes Regional Seminar, Oliver Hotel, South Bend, Ind., postponed from the original date of December 1-2 on account of the weather in this district.

*January 19-21:* Fifth Annual Williamsburg Garden Symposium, Williamsburg, Va. A second session, duplicating the first with the exception of the speakers, *February 26-28.* Further details from Registrar, Williamsburg Garden Symposium, Goodwin Building, Williamsburg, Va.

*January 21-25:* 7th Annual Convention and Exposition of the National Association of Home Builders, Stevens and Congress Hotels, Chicago, Ill.

*January 22-25:* American So-

ciety of Heating and Ventilating Engineers, Annual Meeting, Bellevue-Stratford Hotel, Philadelphia. *January 22-26:* 10th International Heating and Ventilating Exposition, Commercial Museum.

*January 29-31:* Annual meeting, Society of Architectural Historians, Statler Hotel, Washington, D. C.

*February 13-14:* Midwinter Housing Conference of the Southwest Research Institute's Division of Housing and Construction Technology, Statler Hotel, Washington, D. C. Direct inquiries to C. W. Smith, Southwest Research Institute, 8500 Culebra Road, San Antonio 6, Tex.

*February 16-18:* West Virginia architects' weekend at the Greenbrier, White Sulphur Springs.

*February 28:* Meeting of the Inter-Society Color Council, Wardman Park Hotel, Washington, D. C.

*May 8-11:* 83rd Convention of The A.I.A. and Building Products Exhibit, Edgewater Beach Hotel, Chicago.

*May 20-24:* Annual Convention of the National Association of Building Owners and Managers, Rice Hotel, Houston, Tex.

*September:* Congress on Building Research, to be held during the Festival of Britain, London,

with the purpose of reviewing the progress made in research in relation to architecture, building, and associated branches of civil engineering. Those interested in having further details may address The Organising Secretary, Building Research Station, Bucknalls Lane, Garston, Watford, Herts, England.

*November 14-28:* Building Exhibition, Olympia, London. For further details address the Managing Director, 4 Vernon Place, London, W. C. 1.

## An Open Competition

THE JEWISH AGENCY FOR PAL-ESTINE announces a worldwide architectural competition for a memorial to be built in Jerusalem honoring the late Dr. Theodore Herzl, founder of modern Zionism. There are to be three prizes totalling about \$14,000, and the competition is open to all American architects and sculptors.

The scheme is to design a tomb and surrounding park on Mt.

Herzl, Jerusalem's highest peak.

The Institute's Competitions Committee has not yet expressed an opinion on the program of this competition, but as it is a foreign one, Institute members may enter or not as they judge best.

Further details of the program are available from Herzl Memorial Committee, 16 East 66th St., New York, N. Y.

## Architects' European Tours, 1951

ACTING, we suppose, on the assumption that Fellows of The Institute are the most likely prospects for a foreign tour—a premise that is open to debate—the United States Travel Agency has mailed

to Fellows of The A.I.A. its preliminary announcement of two European tours for the spring and fall of 1951. The plans contemplate a visit to Sweden, Switzerland, Italy, France and England,



and receptions in these countries with their professional architectural organizations. The party will cross the Atlantic in strato-cruisers, although those who prefer steamer crossings can go that way instead.

Harold Sleeper, F.A.I.A., has agreed to accompany the spring trip as leader. The fall trip will

be conducted by another leader, to be announced. The spring trip departs from New York May 20 and arrives back in New York June 24; the fall trip leaves September 1 and returns to New York October 6.

Further details may be had from U. S. Travel Agency, Inc., 807 15th Street, N. W., Washington 5.

## The Editor's Asides

TEXAS certainly has displaced Boston in its role of being not a place but rather a state of mind. The Lone Star State's claims of eminence in all forms of human activity and Nature's endowments are the daily fare to which the rest of us are becoming well accustomed. Nevertheless, it comes as something of a jolt to learn that Texas has remodeled Santa Claus.

You see, the picture of a driver of reindeer over snow is not easily made convincing to the Texan youngsters who know neither snow nor reindeer. So, in the new look, Santa drives a six-horse team hitched to a buckboard; he wears levis, a red shirt and a ten-gallon Stetson; his gifts are not dispensed in stockings, but rather in miniature, hand-tooled cowhand's boots.

And to nail down the transformation, Texas has rewritten " 'Twas the Night Before Christmas," eliminating the snow, the reindeer, the sleigh, the stockings, and ending the new version with—

"Then he leapt in his buckboard  
And called back, in his drawl,  
'To all children of Texas,  
Merry Christmas, you-all!'"



PERHAPS YOU ALREADY KNOW how to look at contemporary sculpture. If not, an eminent Italian art critic will help you. He offers ten rules, all of which must be observed for a satisfactory viewing:

1. Have a good light, but not too violent;
2. Concentrate with attention;
3. Turn around very slowly;



4. Advance toward the sculpture steadily, without jerking.

5. Caress the sculpture lightly with your hand, feeling all the curves, even those which are invisible;

6. Simultaneously, with your eyes squinting, approach the sculpture again, this time a little more slowly, and find yourself pleasantly in front of mountains and valleys, hills and fields, rivers and lakes;

7. Go away from it again suddenly and recapture a sense of its unity;

8. Close your eyes for three minutes and think of flowers and boats;

9. Reopen them immediately and find yourself confronting the work;

10. Place yourself to the side and look at it from a distance.

Do you *still* want to view contemporary sculpture?

I HAD ALWAYS SUPPOSED that the process of fireproofing textiles was necessarily a complex and expensive one. The HHFA tells me otherwise. For the kitchen curtain that is too near the range for safety here is a treatment that the housewife herself can give the textile: Mix three parts by weight of boric acid, seven parts of borax

and 100 parts lukewarm water. Mix the acid and the borax separately, each with a little of the water and in separate containers. After the powders are dissolved, combine the two in the balance of the water. Dip the textiles in the solution for several minutes and hang up to dry. Such a treatment will have to be repeated after the curtain is washed. Tests at the National Bureau of Standards indicate that this treatment is very effective.

ONE OF THE most dependable perennials in American architectural practice is the spasmodic effort to help the middle-income group have professional guidance in their house-building struggles. To be frank, this periodic phenomenon is partly the effect of our conscience and partly the realization that most of the nation's building is flowing right past our doors with but a trickle finding its way into our offices. Most of us older men can recall at least two or three carefully organized efforts, in which we played an enthusiastic part, toward setting up a special form of service—limited if necessary—to fit the needs of the family striving to build something better than the run-of-the-mill contrac-

tor's job. Wars, depression, or boom days have usually intervened to smother the effort before it really got under way.

The latest manifestation is sponsored by the New York Chapter, with a group of 28 young practitioners who are particularly interested in dwelling design. They offer a Small House Consulting Service, with a fee based on consultation time. Available for inspection by the prospective client is a portfolio showing the work and professional background of each of the 28 architect members of the clinic.

"Now for the first time, the person who cannot afford the complete services of an architect can obtain the advice of a professional on such problems as selecting the site for a home, buying an existing house, old or new, choosing a plan to fit the person's individual needs, or for inspecting a house under construction to make certain that it is progressing as it should, and that the builder is giving the materials and workmanship for which the owner contracted. By making architectural services available on a part-time consulting basis, the profession feels certain it can save the public many dollars and troubles."

So reads the advance publicity, and, with the best wishes for the clinic's success, many of us will have some difficulty in silencing memories which tell us, "This is where you came in."

SINCE THE REFURNISHING of The Octagon and its opening at certain hours to lay visitors, we have become newly aware, and somewhat gun-shy, of that curious mutation of the alleged human species known as a visitors' guide. His running lecture on the sights of Washington, as he tools his sight-seeing bus through Capital streets, is fearfully and wonderfully made. One of the Washington *Star's* reporters invested three dollars in this form of education and reaped a rich harvest of uninhibited description. The guide's appraisal of the city's architecture was crisp and unhesitating: "There are only two types of architecture here in your National Capital, folks—Roman and Greek, excepting the Pan-American Building and the new Pan-American Annex, which are Mexican Aspic."

Some day, when we are feeling really able to take it, we shall get aboard and hear the low-down on The Institute's national headquarters.



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